DARUL HUDA EXAMINATION BOARD

ANNUAL EXAMINATION- MARCH -2021

Time: 2hr(s) **Sub: MATHEMATICS** **Marks: 50** **STD:II**

I. Each question carries 2 marks **(4×2=8)**

1) What are the coefficient of x in the following expression.

$4x - 3y, 8-x+y, \quad y^2x-y, 2z-5xz$

2) Express the following in exponential form:

1) $5\times5\times7\times7\times7$ 2) $2\times2\times a\times a$

3) Find the height, if the area of the parallelogram is 24 cm and the base is 4cm.

4) a) $a^m \times a^n$ = ...

b) a^0 = ...

II. Answer any three of the following questions **(3×3=9)**

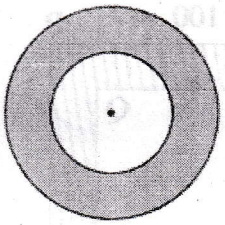
1)The adjoining figures shows two circles with the same Centre. The radius of the largercircle is 10cm and the radius of the smaller circle is 4cm.

Find:

a) The area of the larger circle

b) The area of the smaller circle

c) The shaded area between the two circles. (π =3.14)



2) Simplify the expression and find the value when a = 5 and b = -3.

$2(a^2 + ab) + 3 - ab$

3) Express the following numbers as a product of powers of prime factors:

i)72 ii)432 iii) 1000

4) Find the interest to be paid at the end of 3 years in the following case

Principal = 1200 at 12% per annum.

III. Answer any five of the following questions **(5×5=25)**

1) Draw only one number line and represent the following rational numbers on it.

(a) $\frac{-5}{8}$ b) $\frac{3}{4}$ c) $\frac{-7}{4}$ d) $\frac{7}{8}$ e) $\frac{-4}{7}$

2) From the sum of $2y^2+3yz$, $-y^2-yz-z^2$ and $yz+2z^2$, subtract the sum of $3y^2-z^2$ and $-y^2+yz+z^2$.

3) Out of 15000 voters in a constituency, 60% voted. Find the percentage of voters who did not vote. Can you now find how many actually did not vote?

4)Tell what is the profit or loss in the following transactions.

Also findprofit percent or loss percent in each case.

a) Gardening shears bought for ₹ 250 and sold for ₹ 325

b) A refrigerator bought for ₹ 12000 and sold at ₹ 13500

c) A cupboard bought for ₹ 2500 and sold at Rs 3000

d) A skirt bought for ₹ 250 and sold at ₹ 150

e) A table bought for ₹ 15600 and sold at ₹ 15000

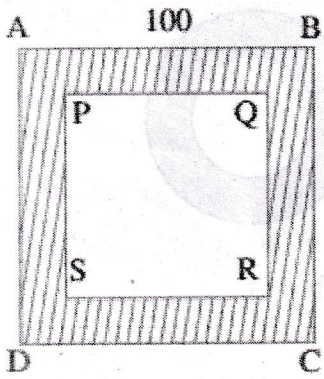
5) Two sides of a parallelogram ABCD are 6cm and 4cm.

The height corresponding to the base CD is 3cm.

Find (i) the area of the parallelogram ABCD

(ii) the height corresponding to the base AD which is 4cm long

6) A path 5 cm wide runs along inside a square park of side 100 cm. Find the area of the path. Also find the cost of cementing at the rate of Rs 250 per 10 sq.cm



7) Find the value of the following expressions when $n = -2$

a) $5n^2 + 5n - 2$ b) $n^2 + 5n^2 + 5n - 2$

IV) Find the value **(1×8 = 8)**

1) $\frac{5}{4} + \frac{-11}{4}$ 2) $\frac{-3}{-11} + \frac{5}{9}$ 3) $\frac{7}{24} - \frac{17}{36}$ 4) $\frac{-3}{8} + \frac{7}{11}$

5) $\frac{9}{2} \times \frac{-7}{4}$ 6) $\frac{3}{11} \times \frac{2}{5}$ 7) $\frac{3}{13} \div \frac{-4}{65}$ 8) $\frac{-1}{8} \times \frac{3}{4}$